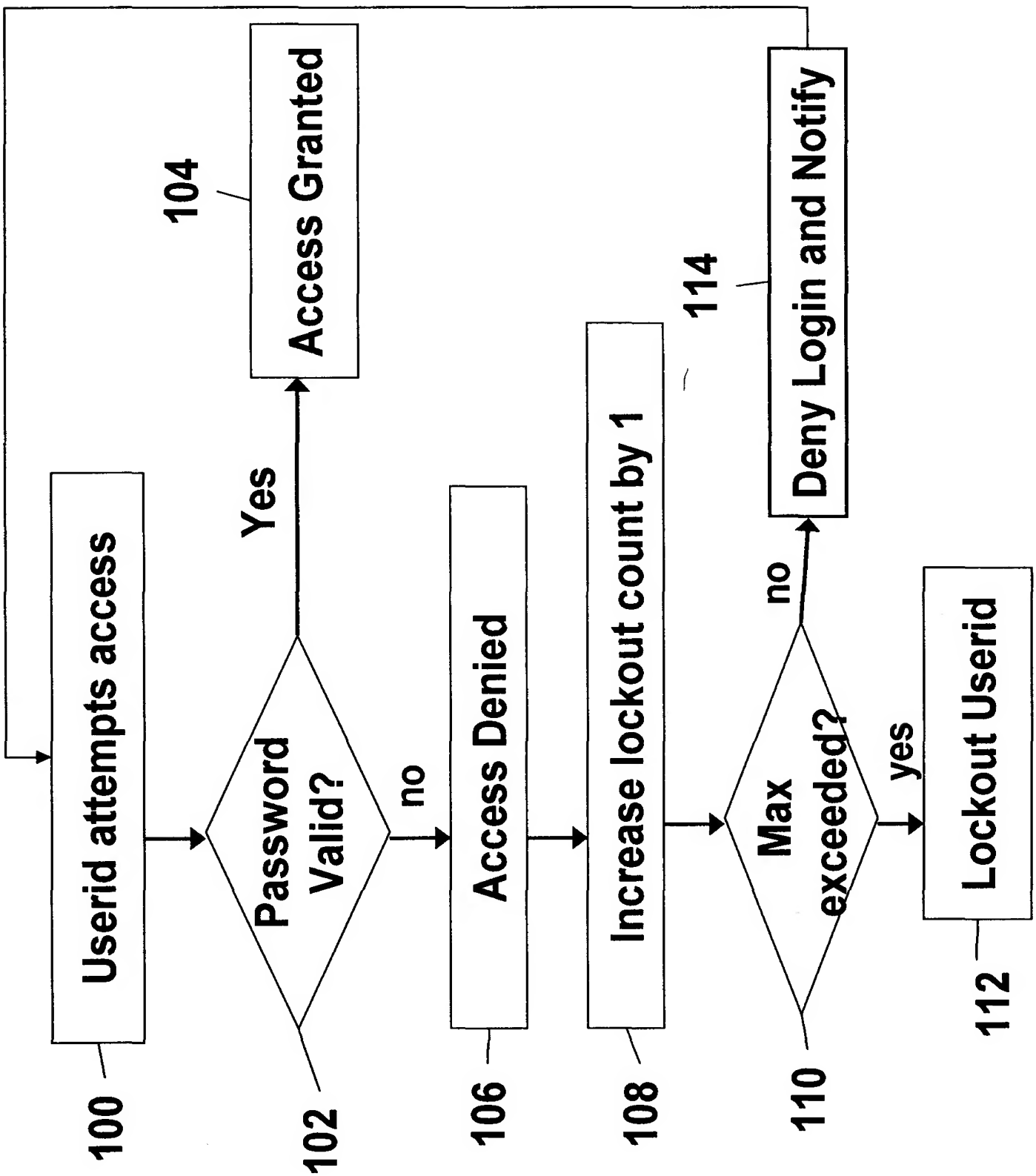
Userid attempts access
100
Password Valid?
102
Yes
104
Access Granted
no
Access Denied
106
Increase lockout count by 1
108
Max exceeded?
110
no
Deny Login and Notify
114
yes
Lockout Userid
112

Figure 1

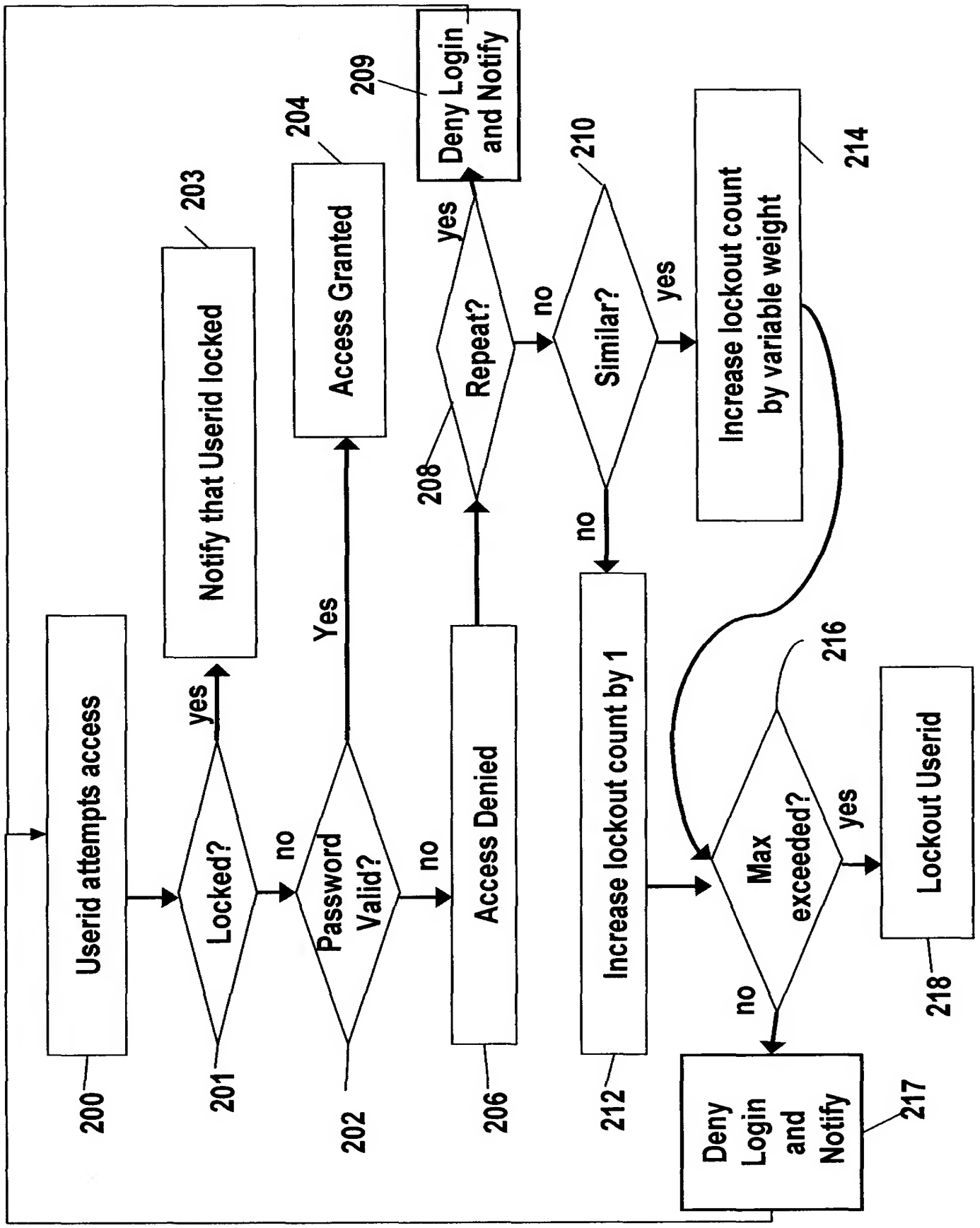
Userid attempts access
200
Locked?
201
yes
Notify that Userid locked
203
no
Password Valid?
202
Yes
Access Granted
204
no
Access Denied
206
Repeat?
208
yes
Deny Login and Notify
209
no
Similar?
210
yes
Increase lockout count by variable weight
214
Increase lockout count by 1
212
Max exceeded?
216
yes
Lockout Userid
218
no
Deny Login and Notify
217

Figure 2

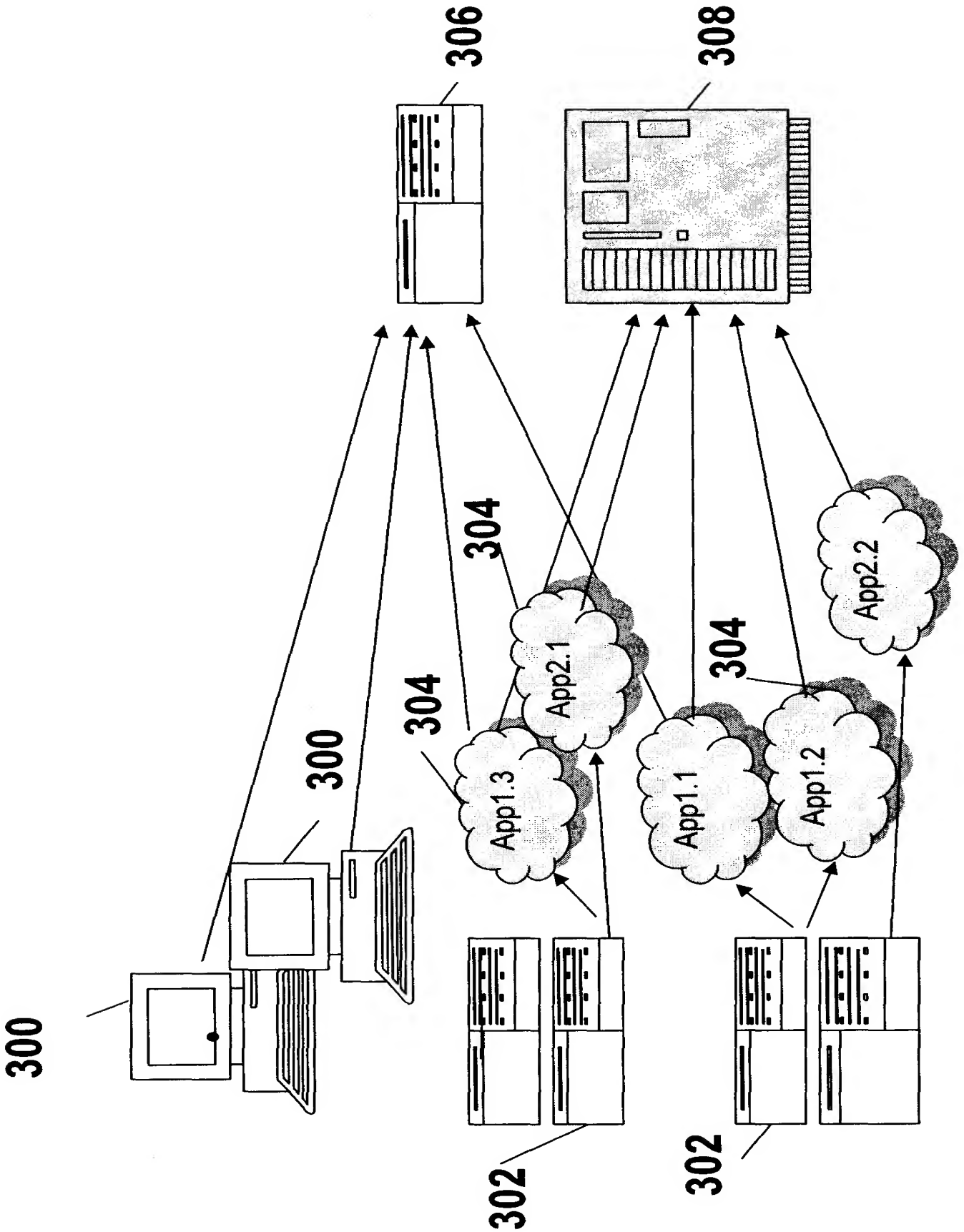
306
308
304
304
304
App2.1
App2.2
App1.3
App1.1
App1.2
300
300
302
302

Figure 3

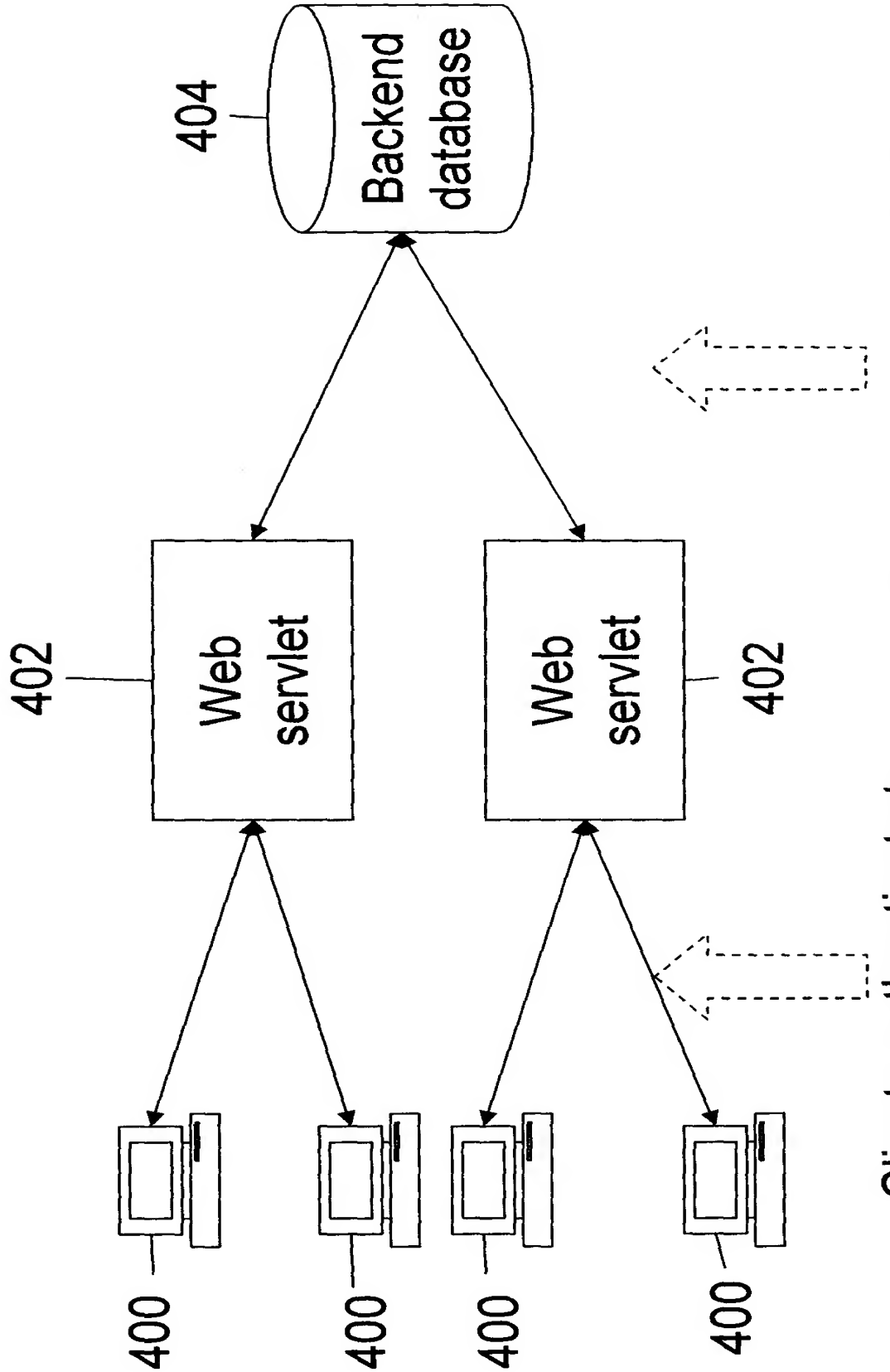
404
Backend database
402
Web servlet
Web servlet
402
400
400
400
400
Servlets authenticate to db-server using the appl's shared database id
Clients authenticate to web-server using their individual web-session ids

Figure 4

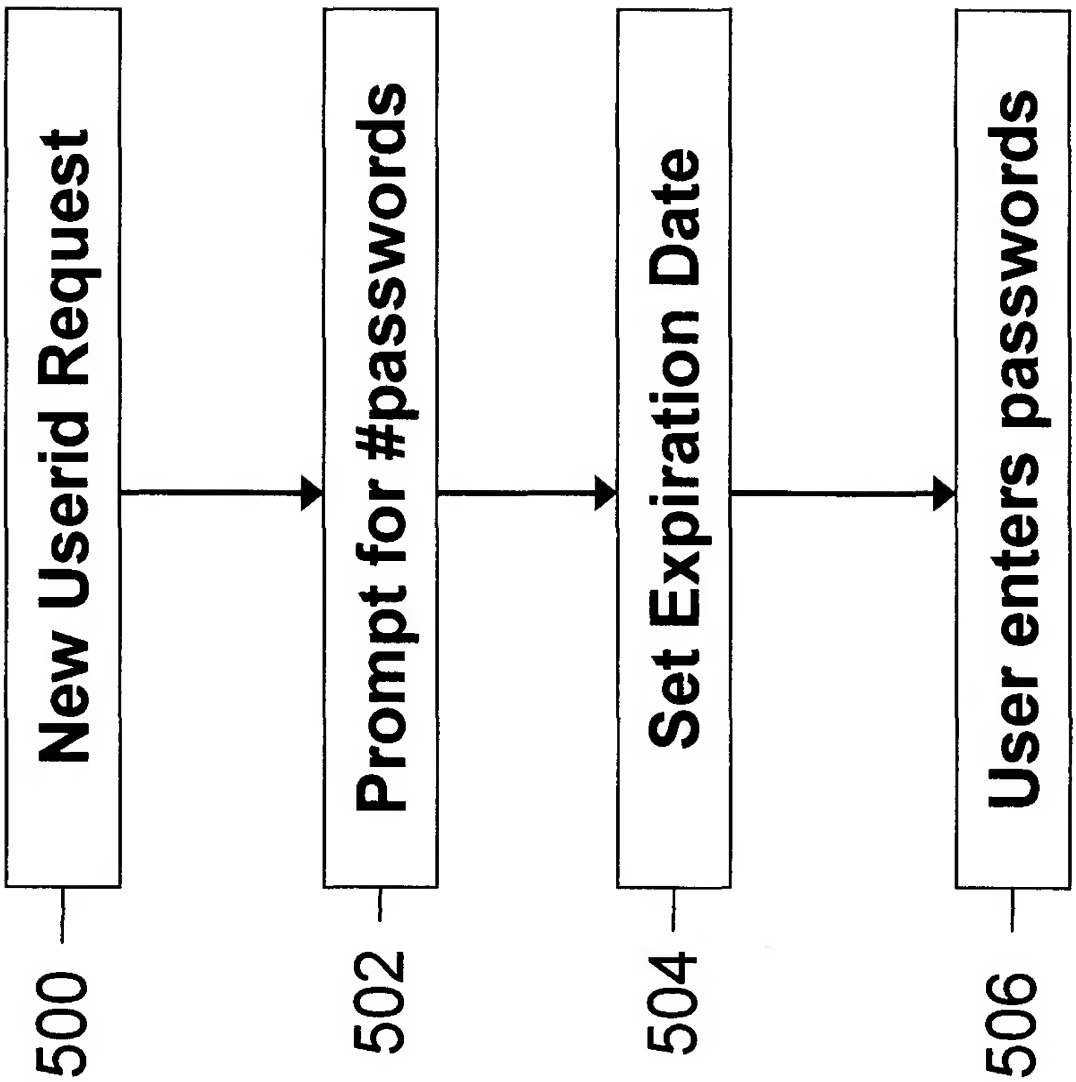
New Userid Request
Prompt for #passwords
Set Expiration Date
User enters passwords
500
502
504
506

Figure 5

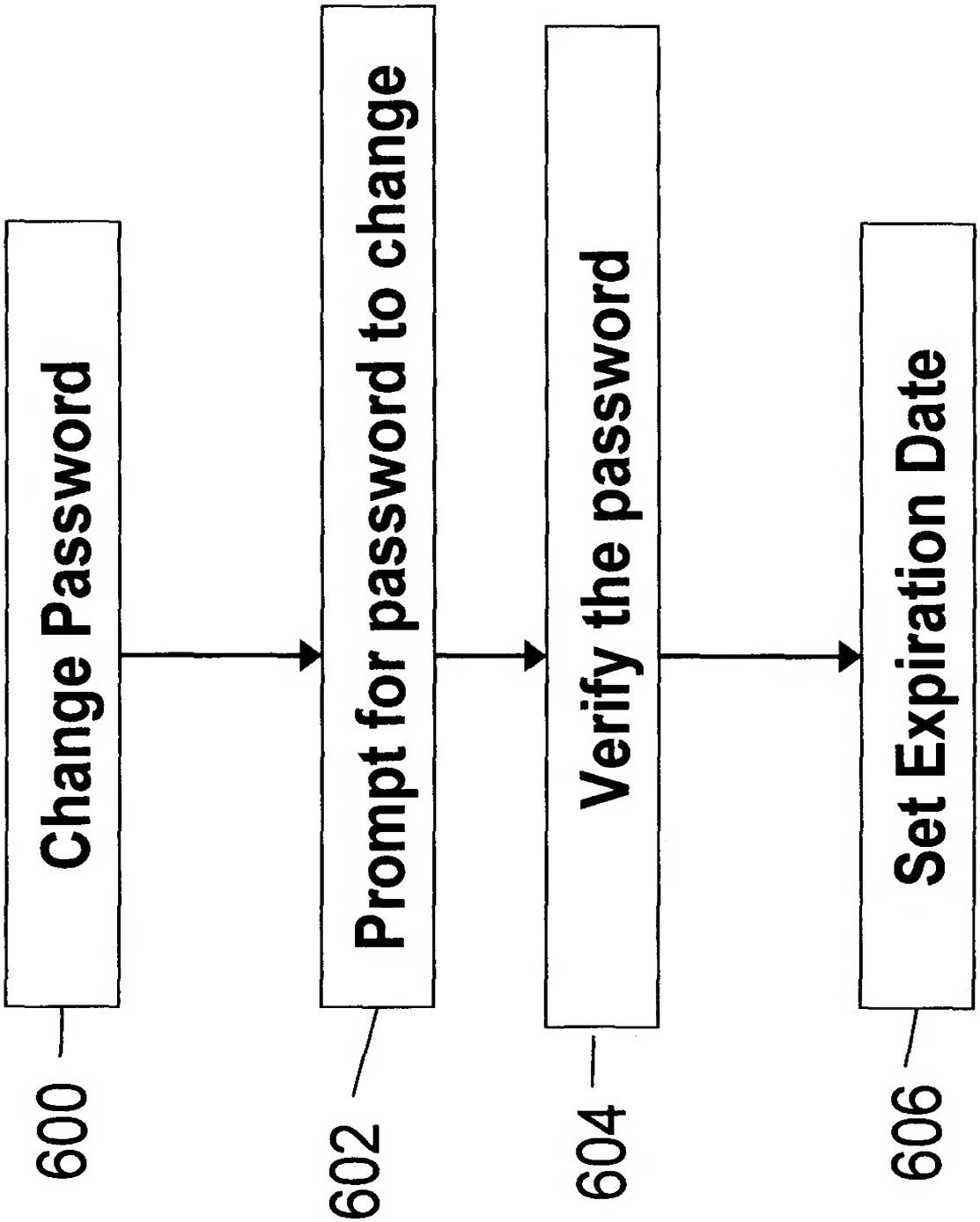
Change Password
Prompt for password to change
Verify the password
Set Expiration Date
600
602
604
606

Figure 6

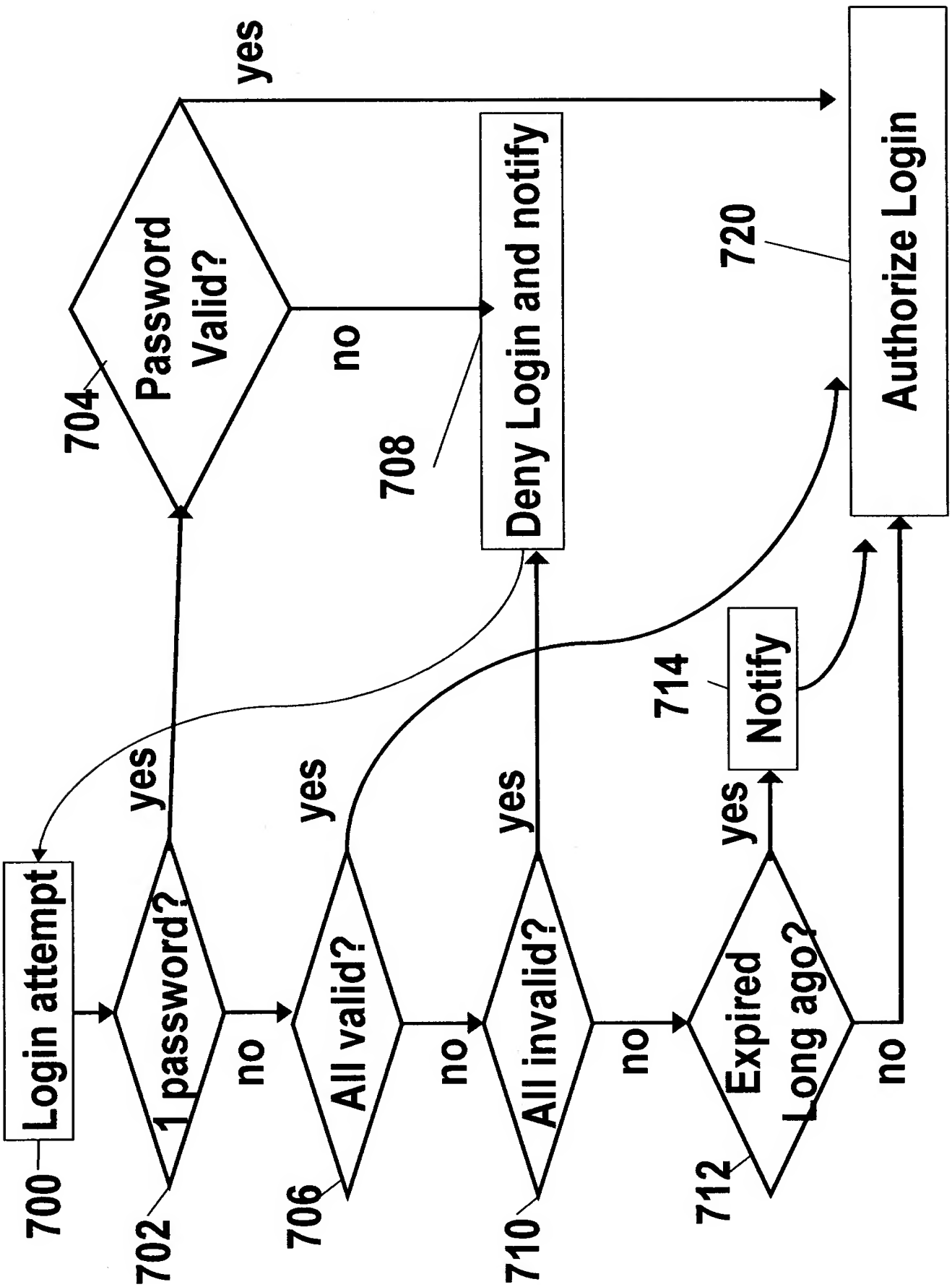
Login attempt
700
1 password?
702
Password Valid?
704
Deny Login and notify
708
All valid?
706
All invalid?
710
Expired Long ago?
712
Notify
714
Authorize Login
720
yes
no

Figure 7

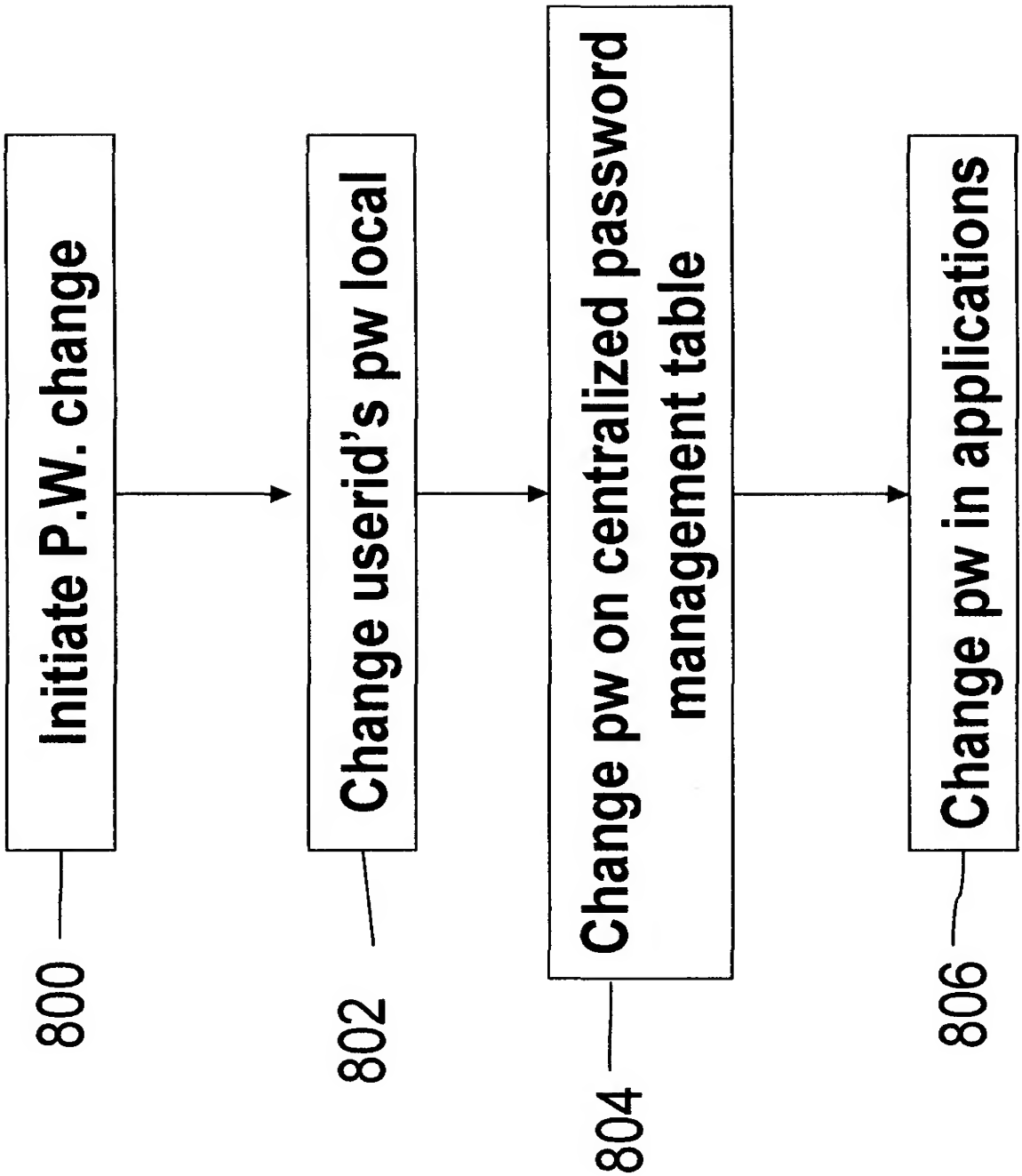
Initiate P.W. change
Change userid's pw local
Change pw on centralized password management table
Change pw in applications
800
802
804
806

Figure 8

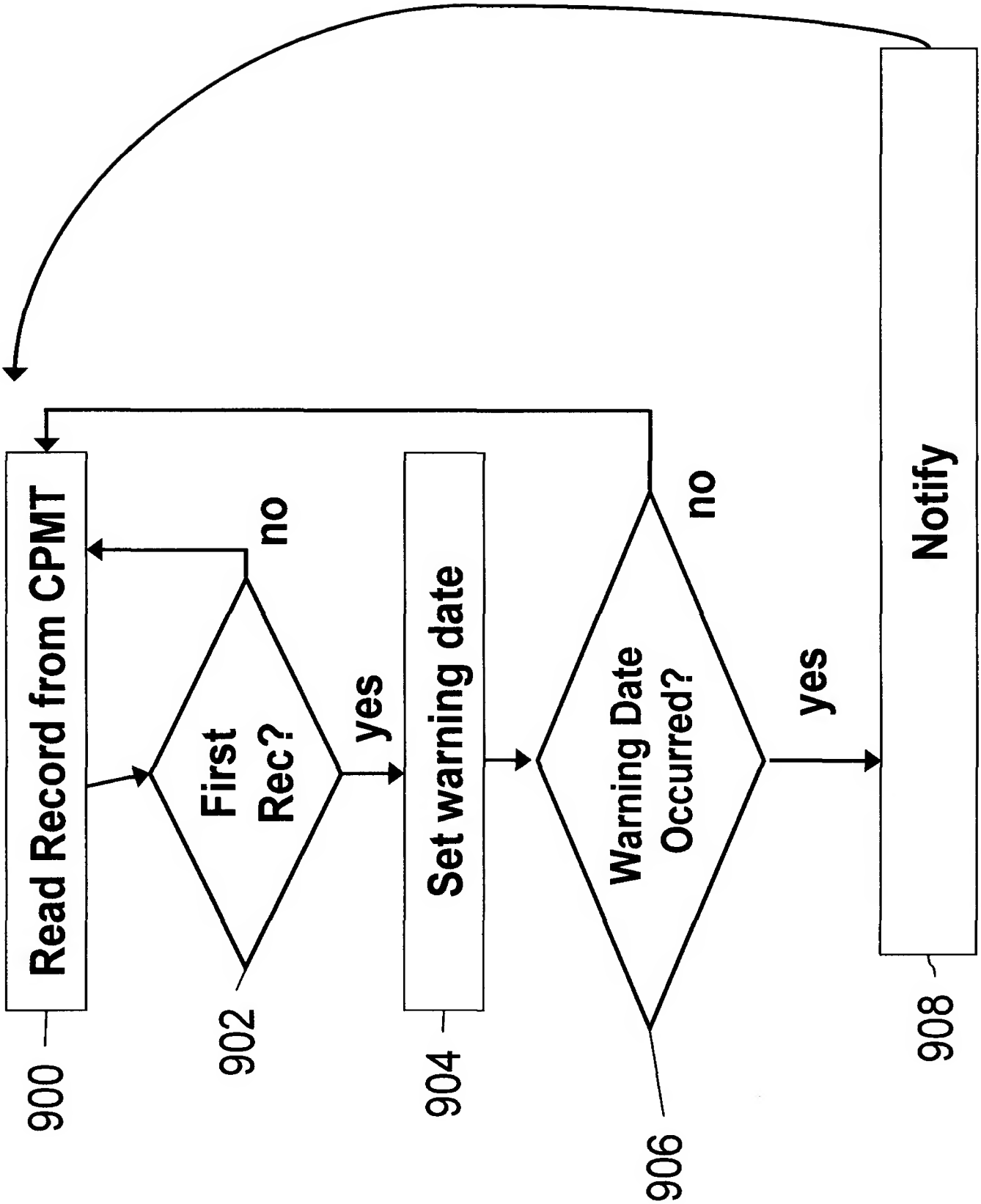
Read Record from CPMT
First Rec?
no
yes
Set warning date
Warning Date Occurred?
no
yes
Notify
900
902
904
906
908

Figure 9

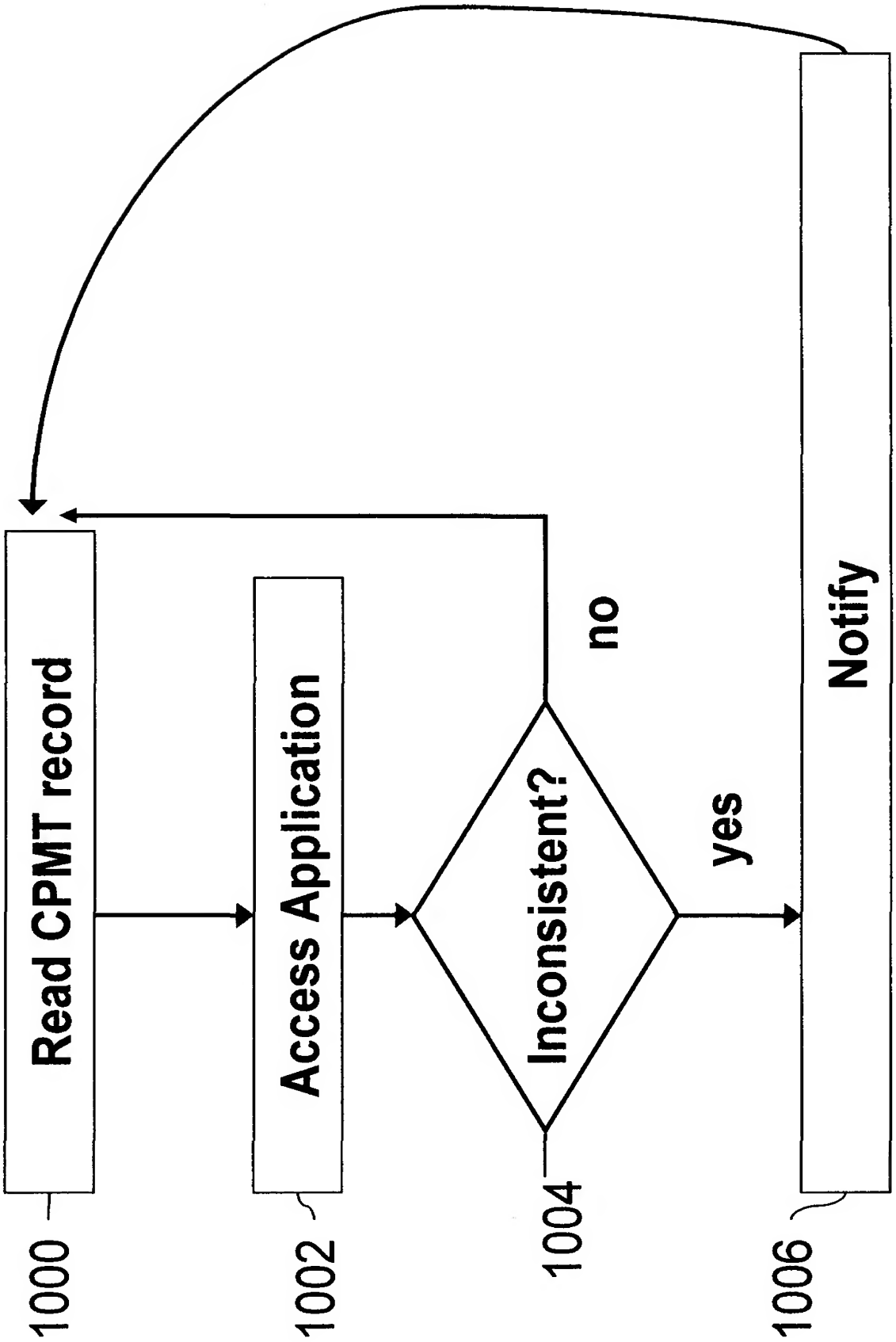
Read CPMT record
Access Application
Inconsistent?
no
yes
Notify
1000
1002
1004
1006

Figure 10

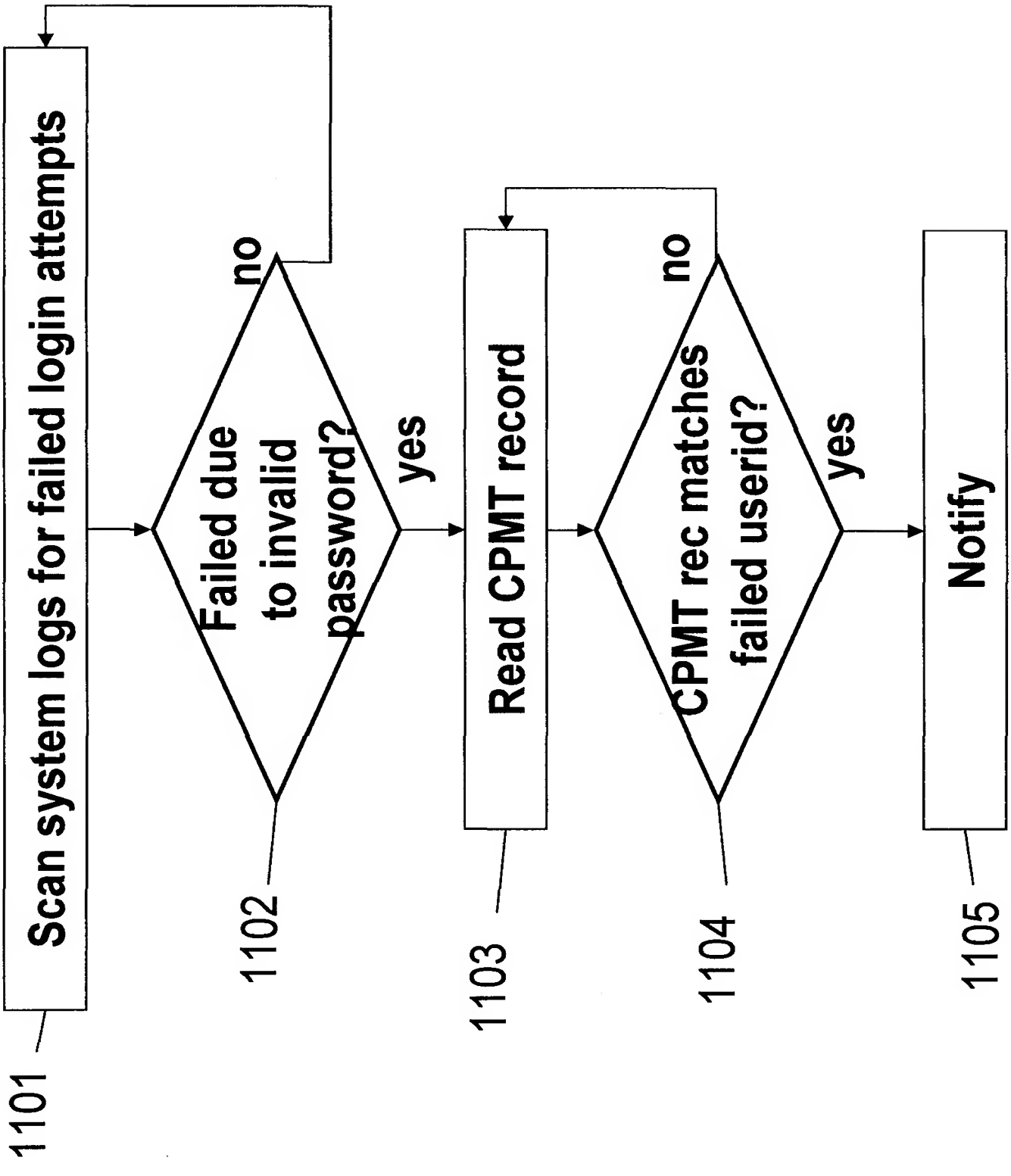
Scan system logs for failed login attempts
1101
Failed due to invalid password?
no
yes
1102
Read CPMT record
1103
CPMT rec matches failed userid?
no
yes
1104
Notify
1105

Figure 11

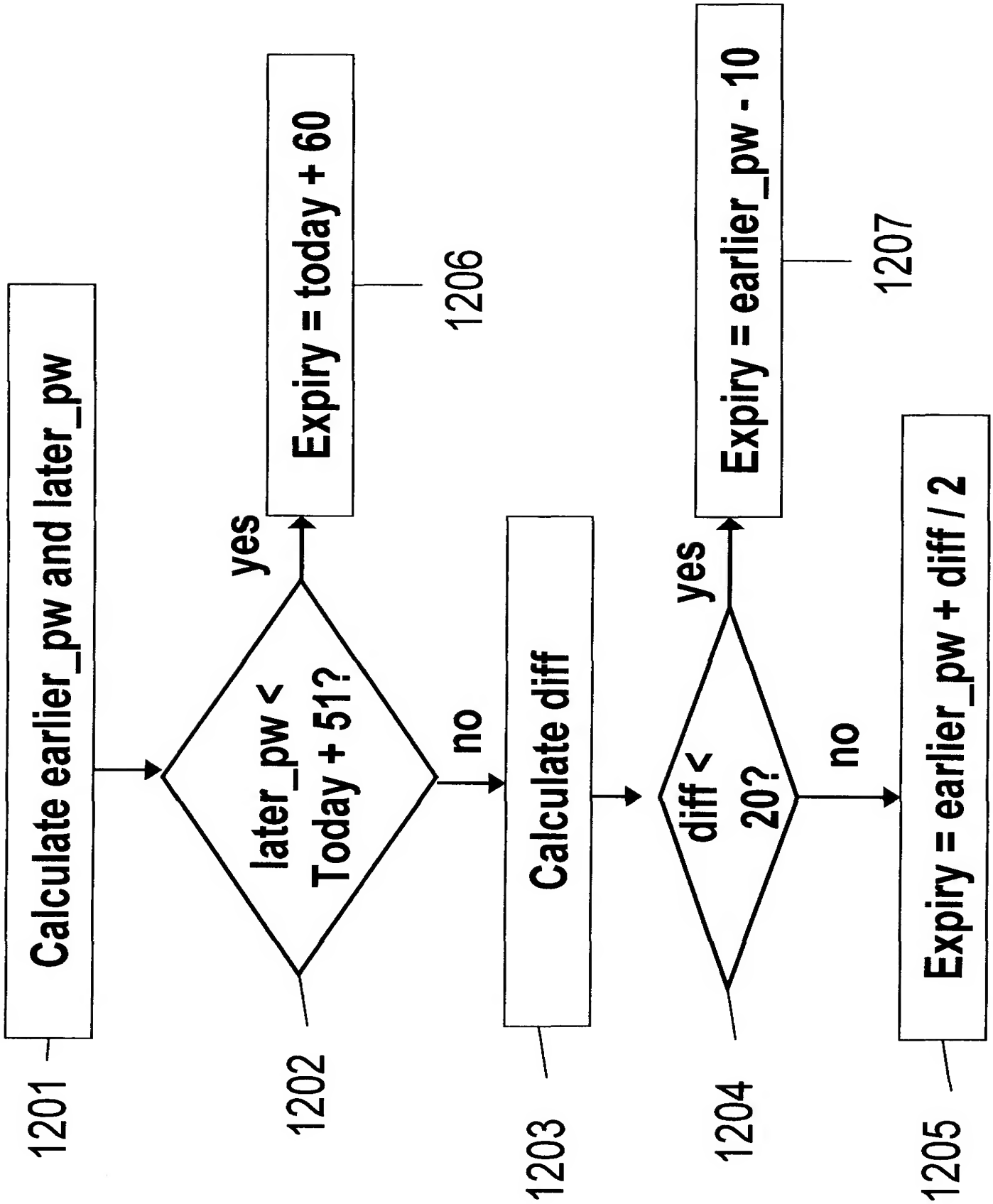
Calculate earlier_pw and later_pw
1201
later_pw < Today + 51?
1202
yes
Expiry = today + 60
1206
no
Calculate diff
1203
diff < 20?
1204
yes
Expiry = earlier_pw - 10
1207
no
Expiry = earlier_pw + diff / 2
1205

Figure 12

Centralized Password Management Table (CPMT)

userid	userid-host name	userid-password	userid-expiry	userid-owner	userid-expiry-leadtime	userid-invalid-count	application	applicatio n-host	application-owner	application -rule

Fig. 13

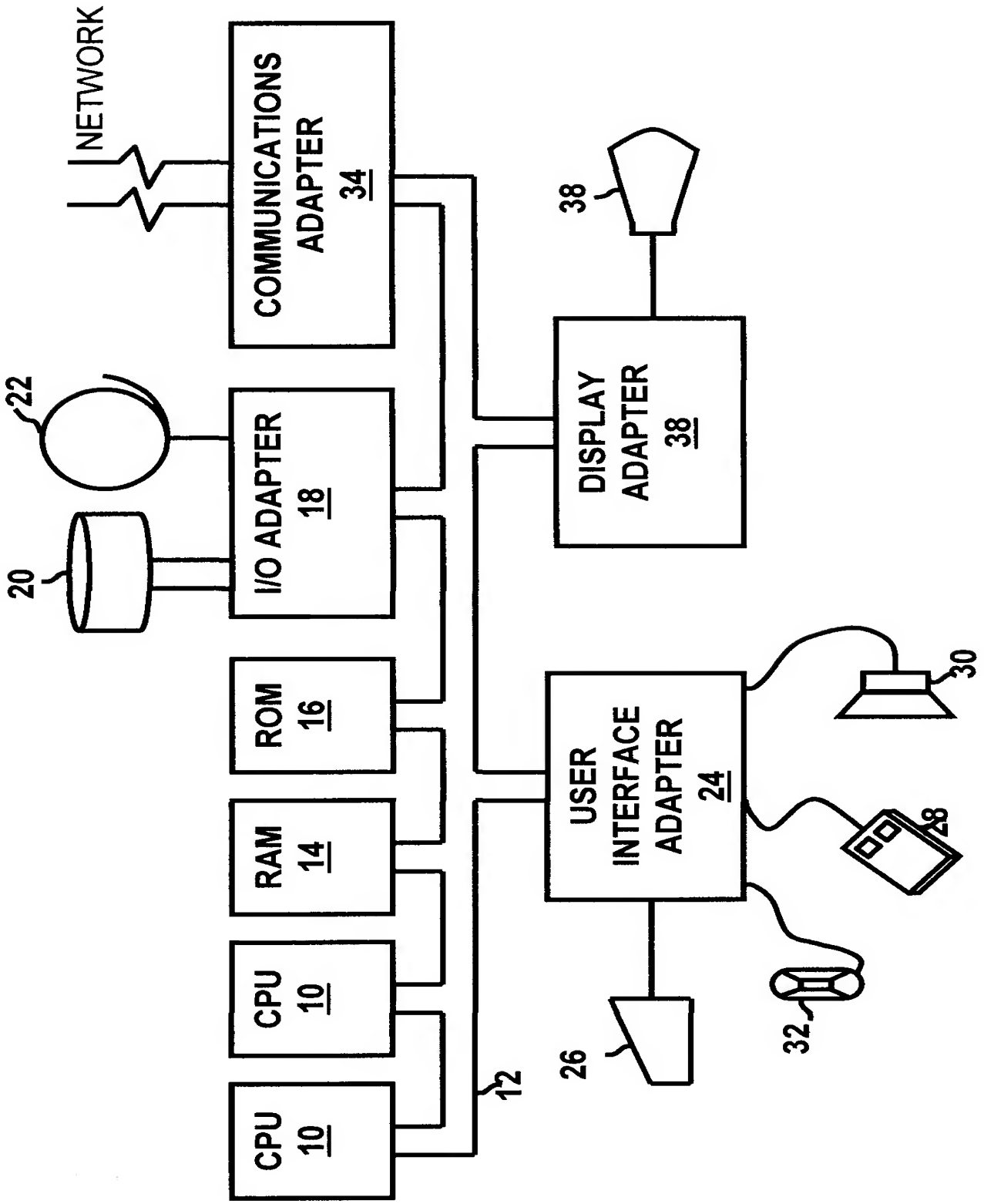
NETWORK
COMMUNICATIONS ADAPTER 34
38
DISPLAY ADAPTER 38
22
20
I/O ADAPTER 18
ROM 16
RAM 14
CPU 10
CPU 10
USER INTERFACE ADAPTER 24
30
28
32
26
12

Figure 14